REMARKS

This paper is being provided in response to the Final Office Action dated May 18, 2005, for the above-referenced application. In this response, Applicant has cancelled claim 13 without prejudice or disclaimer of the subject matter thereof and amended claims 14 and 16 to clarify that which Applicant considers to be the invention. Applicant respectfully submits that the new claims are fully supported by the originally-filed application.

Applicant gratefully acknowledges the allowance of claims 26-31 and the indication of allowability of the subject matter of claims 14, 15, 18, 19, 21, 23 and 24. In this response, applicant has rewritten claim 14 in independent form in accordance with the guidelines set forth in the Office Action. Claim 15 depends from claim 14.

The rejection of claim 13 under 35 U.S.C. 102(b) as being unpatentable over U.S. Patent No. 5,986,863 to Oh (hereinafter "Oh") has been rendered moot by the cancellation of claim 13 herein.

The rejection of claims 16, 17, 20, 22, and 25 under 35 U.S.C. 103(a) as being unpatentable over Oh in view of U.S. Patent No. 6,060,752 to Williams (hereinafter "Williams") is hereby traversed in reconsideration there of it is respectfully requested.

Claim 16, which has been rewritten in independent form to include the features of previous claim 13, from which claim 16 depended, recites an electrostatic discharge device that includes a semiconductor substrate of a first conduction type, first and second wells of a second conduction type opposite to the first conduction type, each of the first and second wells including a first

diffusion region of the first conduction type and a second diffusion region of the second conduction type, the second diffusion region in the first well being connected to the first diffusion region in the second well, and a third well of the first conduction type located between the first well and the second well, where the first, second and third wells cooperate with one another to perform a bipolar action and where the third well includes a diffusion region of the first conduction type. Claim 17 depends from claim 16.

Independent claim 20 recites an electrostatic discharge device that includes a semiconductor substrate of a first conduction type, first and second wells of a second conduction type opposite to the first conduction type, each of the first and second wells including a first diffusion region of the first conduction type and a second diffusion region of the second conduction type, the second diffusion region in the first well being connected to the first diffusion region in the second well; and a third well of the first conduction type disposed between the first well and the second well and including a diffusion region of the first conduction type, where the diffusion region in the third well is exposed in a surface of the semiconductor substrate. Claims 22 and 25 depend from claim 20.

The Oh reference discloses electrostatic discharge protection circuits including circumferential guard rings. Fig. 2 of Oh, cited in the Office Action, is described in column 1 as follows:

> Referring to FIG. 2, p+ and n+ regions 22 and 24 correspond to the anode and cathode of diode D1 respectively, and p+ and n+ regions 32 and 34 correspond to anode and cathode of diode D2 respectively. The first and second diodes D1 and D2 are contained in respective first and second well regions 20 and 30 in an integrated circuit substrate such as a semiconductor substrate 10. A p-well region 40 is included between first and second regions 20 and 30. *P-well region 40 acts as an isolation region between the n-well regions 20 and 30.* (emphasis added)

The Office Action goes on to indicate, on page 3 thereof, that Oh does not disclose Applicant's recited third well including a diffusion region of the first conductivity type.

Williams discloses, in Figure 9C thereof (cited in Office Action), diodes D2A and D2B formed in an N-epi layer (950). P+ regions (952, 954) form the anodes of diodes D2A and D2B, respectively. An N+ sinker (956) is interposed at the cathodes of diodes D2A and D2B to inhibit parasitic lateral bipolar action.

Applicant respectfully submits that the combination of Oh and Williams does not show, teach, or suggest the recited feature of applicant's claimed third well that includes a diffusion region of the first conductivity type. Williams teaches inhibiting a parasitic bipolar transistor composed of the P+ regions (952, 954) and the N-epi layer (950) using a double diffusion region (an N+ sinker and N+ diffusion region therein) between the P+ regions (952, 954) and the N-epi layer (950). See, for example, column 7, lines 36-38 of Williams. In contrast, Oh specifically teaches using a P-well (40) to provide isolation between the N-wells (20, 30), as set forth, for example, in column 3 lines 62 and 63 of Oh. Accordingly, for Oh, there is no need to inhibit any parasitic bipolar transistor composed of N-wells (20, 30) and P-well (40).

Accordingly, Applicant respectfully submits that one of ordinary skill in the art would not add to Oh a third well such as disclosed in Williams that includes a diffusion region of the first conductive type. Oh specifically teaches using a conductive region of an opposite type (i.e., the P-well 40) to provide isolation and thus there is no need to inhibit a parasitic bipolar transistor formed therein as taught by Williams. Furthermore, it's not clear that forming a third well of the first conductive type in the device that is disclosed by Oh would be operative or at least useful.

In the case of Williams, the sinker region (956) is formed in the N-epi layer (950). However, since Oh discloses a different scheme altogether, it is not clear where the sinker region of Williams would be placed on the Oh device if one of ordinary skill in the art were to combine the references. It is not clear that the isolation provided by the P-well (40) as taught by Oh for isolation would operate the same way (or at all) if the sinker region of Williams (956) were to be combined therewith. Accordingly, for all of the reasons set forth above, Applicant respectfully requests that this rejection be withdrawn.

Based on the above, Applicants respectfully request that the Examiner reconsider and withdraw all outstanding rejections and objections. Favorable consideration and allowance are earnestly solicited. Should there be any questions after reviewing this paper, the Examiner is invited to contact the undersigned at 508-898-8603.

Respectfully submitted,
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